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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/090,806	03/06/2002	Masahiko Kawase	36856.648	6896

7590 11/18/2003

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EXAMINER	
BEREZNY, NEMA O	
ART UNIT	**PAPER NUMBER**
2813	

DATE MAILED: 11/18/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/090,806	KAWASE ET AL.	
	Examiner	Art Unit	
	Nema O Berezny	2813	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *05 September 2003*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *9-20* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *9-20* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *10 May 2002* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☒ Certified copies of the priority documents have been received in Application No. 09/690,870.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

13)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

a) ☐ The translation of the foreign language provisional application has been received.

14)☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) *6*.
4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

DETAILED ACTION

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 9-11 and 14 are rejected under 35 U.S.C. 102(b) as being anticipated by Person et al. (5,321,573). Person discloses a manufacturing method of a chip-type composite electronic component comprising the steps of: forming an inductor characteristic sheet by laminating a ceramic layer having an internal coil conductor (Fig.3 el.28); forming a thermistor characteristic sheet by laminating a ceramic layer having an internal electrode and having a predetermined resistance temperature characteristic (el.24,26; col.7 line 28 – col.8 line 16); forming a compound multilayer body by adhering the inductor characteristic sheet and the thermistor characteristic sheet by pressure (el.12; col.2 lines 48-53) with a diffusion prevention layer sandwiched therebetween (el.40; col.3 lines 52-56); baking a compound multilayer body (col.5 lines 28-33); forming external electrodes (Fig.1 el.14,16,18) on an end surface of a compound multilayer body in which at least one end part of an internal coil conductor and at least one end part of an internal electrode are exposed. Person also discloses wherein one end of the internal coil conductor of the inductor is connected to one of the external electrodes, one end of the internal electrode of the thermistor is connected to

the other of the external electrodes, and the other end of the internal coil conductor of the inductor and the other end of the internal electrode of the thermistor are connected together (Figs.4-23; col.4 lines 20-26); connecting one end of the internal coil conductor of the inductor and one end of the internal electrode of the thermistor to one of the external electrodes, and connecting the other end of the internal coil conductor of the inductor and the other end of the internal electrode of the thermistor to the other of the external electrodes (Figs.4-23; col.4 lines 20-26); and providing an intermediate insulating layer (el.80) and laminating the inductor and the thermistor via the intermediate insulating layer (col.4 lines 27-31).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 12-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Person as applied to claims 9-11 above, and further in view of Nagakubo et al. (5,966,938). Person does not disclose a method wherein said thermistor is a negative-characteristic or a positive-characteristic thermistor. However, Nagakubo discloses a control circuit device comprising a negative-characteristic and a positive characteristic thermistor (col.8 lines 37-47). Therefore, it would have been obvious to a person skilled in the art at the time of the invention to use the negative and positive characteristic

thermistors of Nagakubo with the method of Person in order to individually vary and control both a heating operation and a cooling operation for said device (col.8 lines 37-39).

Claims 15-17 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Person et al. (5,321,573). Person discloses a manufacturing method of a chip-type composite electronic component comprising the steps of: forming an inductor characteristic sheet by laminating a ceramic layer having an internal coil conductor (Fig.3 el.28); forming a thermistor characteristic sheet by laminating a ceramic layer having an internal electrode and having a predetermined resistance temperature characteristic (el.24,26; col.7 line 28 – col.8 line 16); forming a compound multilayer body by adhering the inductor characteristic sheet and the thermistor characteristic sheet by pressure (el.12; col.2 lines 48-53) with a diffusion prevention layer sandwiched therebetween (el.40; col.3 lines 52-56); baking a compound multilayer body (col.5 lines 28-33); forming external electrodes (Fig.1 el.14,16,18) on an end surface of a compound multilayer body in which at least one end part of an internal coil conductor and at least one end part of an internal electrode are exposed. However, Person does not disclose baking the inductor characteristic sheet, baking the thermistor characteristic sheet, then adhering and laminating the baked inductor and thermistor characteristic sheets. It would have been obvious to a person skilled in the art at the time of the invention to preform and bake the thermistor and inductor sheets separately, then adhere and laminate them together in order to vary the electrical properties of the final

device and achieve the desired properties using preformed subassemblies (Person – col.3 lines 42-51).

Person also discloses wherein one end of the internal coil conductor of the inductor is connected to one of the external electrodes, one end of the internal electrode of the thermistor is connected to the other of the external electrodes, and the other end of the internal coil conductor of the inductor and the other end of the internal electrode of the thermistor are connected together (Figs.4-23; col.4 lines 20-26); connecting one end of the internal coil conductor of the inductor and one end of the internal electrode of the thermistor to one of the external electrodes, and connecting the other end of the internal coil conductor of the inductor and the other end of the internal electrode of the thermistor to the other of the external electrodes (Figs.4-23; col.4 lines 20-26); and providing an intermediate insulating layer (el.80) and laminating the inductor and the thermistor via the intermediate insulating layer (col.4 lines 27-31).

Claims 18-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Person as applied to claims 15-17 above, and further in view of Nagakubo et al. (5,966,938). Person does not disclose a method wherein said thermistor is a negative-characteristic or a positive-characteristic thermistor. However, Nagakubo discloses a control circuit device comprising a negative-characteristic and a positive characteristic thermistor (col.8 lines 37-47). Therefore, it would have been obvious to a person skilled in the art at the time of the invention to use the negative and positive characteristic thermistors of Nagakubo with the method of Person in order to individually vary and

control both a heating operation and a cooling operation for said device (col.8 lines 37-39).

Response to Arguments

Applicant's arguments filed 9-5-03 have been fully considered but they are not persuasive. Applicant contends that the ferrite layer 40 of Person does not disclose a diffusion-prevention layer sandwiched between the inductor characteristic sheet and the thermistor characteristic sheet. Examiner disagrees. Applicant's specification provides no disclosure regarding the claimed diffusion-prevention layer except that it comprises an insulating layer. Applicant also discloses said diffusion layer as "... formed and arranged to cause an electric obstruction," (p.8 first paragraph) i.e. an electrical barrier, which is provided by the ferrite insulative layer of Person.

Applicant also challenged the statement made by Examiner in the prior Office Action, that it would be obvious to preform and bake the thermistor and inductor sheets separately, then adhere and laminate them together in order to achieve final varying electrical properties; Applicant has asked for substantiating evidence to back up said statement. Applicant's attention is drawn to JP5-335183, cited in Applicant's recent IDS. Mitsuyoshi et al. (JP5-335183) discloses that two boards of different kinds with passive elements different from each other in electrical properties are previously burned, then pasted together to form a multilayer board (Constitution) which is stable and free from warpage and cracks (Purpose).

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Nema O Berezny whose telephone number is (703) 305-3445. The examiner can normally be reached on M-F 8:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Carl Whitehead, Jr. can be reached on (703) 308-4940. The fax phone number for the organization where this application or proceeding is assigned is (703) 308-7722.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

NB

C. Chaudhari

Chandra Chaudhari
Primary Examiner